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By Electronic Transmission

Mr Dilip Mathew
Manager, Aerodromes
Civil Aviation Safety Authority
GPO Box 2005
CANBERRA ACT 2601

Email: dilip.mathew@casa.gov.au

Our Ref: S05-0022

Dear Mr Mathew,

Re: Plume Rise Assessment for the Ventilation Stacks Resulting from the WestConnex Project

Further to the meeting chaired by the Department on effects of the plumes efflux from the ventilation stacks (in the vicinity of Sydney Airport) resulting from the proposed WestConnex road upgrades held at the Hinkler Room at Sydney Airport on 15 January 2016, the Australian Airline Pilots Association (AusALPA) would like to reiterate its position on the following issues:

1. The results, using the "FAA Exhaust Plume Analyzer – MITRE Model", provided in the presentation by Mr Graeme Wood of the wind consultants (CPP) engaged by Sydney Airport indicates that the velocity of the plume may exceed the critical plume velocity (CPV) of 4.3m/s and may, in some circumstances, exceed the CPV of 10.6m/s where it penetrates the PANS-OPS and Obstacle Limitation Surface above the proposed ventilation stack at the St Peters and Arncliffe locations. In view of these results, AusALPA supports Sydney Airport's request that this identified hazard should be further assessed by CASA as it is possible that it could cause disturbance to some GA and helicopters transiting, holding or downwind of that location.
2. AusALPA notes that there was disagreement between the consultants (Pacific Environment) for WestConnex and CPP in terms of the data used for input to the MITRE model. We recommend a set of agreed data (in particular the exit delta temperature and velocity) are determined for input into the MITRE model to give a representative picture of the potential

hazard and probability at different times of day and seasons for “typical conditions”. Once this has been accomplished, a safety risk assessment should be performed in collaboration with the stakeholders, prior to making a recommendation to the Department.

3. AusALPA is also concerned with the possibility that ventilated air/gases from the proposed WestConnex tunnels, particularly at Arncliffe, could provide a catalyst for fog formation. This is particularly so during the early morning periods where both the atmospheric preconditions can be present and the efflux velocity may be less due to a lower traffic density using the tunnel at that time. Arncliffe is likely to be the major concern given its proximity to the airport and the Cooks River. The Association understands that Mr Rod Pott’s of the Bureau of Meteorology has been consulted by Sydney Airport and has confirmed that there may be potential for fog formation in these circumstances. The Association therefore requests CASA seek further expert advice from the Bureau of Meteorology and assess the potential risk and impact of fog formation.

The Association would like to thank the Department and CASA for their stakeholder collaboration on this matter.

Yours sincerely,



Shane Loney
Vice President

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